

## **IN THE CLAIMS**

1 1. (currently amended) A wireless mobile communications network including a  
2 base station and a plurality of mobile nodes, comprising:

3 a first mobile node configured as a major node to communicate information  
4 directly with the base station via a network link; and

5 a second mobile node configured as a minor node to communicate the  
6 information indirectly with the base station via a local link with the major node and  
7 the network link from the major node to the base station to form a locally linked  
8 mobile network within the wireless mobile communications network, wherein the  
9 communicating of the information is dynamically routed to optimize a quality of  
10 service of the wireless mobile communications network and the locally linked  
11 network; and

12 wherein the base station includes a memory to store a configuration list to  
13 associate the major node with the minor node.

1 2. (original) The wireless mobile communications network of claim 1 wherein each  
2 mobile node further comprises:

3 a header detector, coupled to a receiver and a decoder, configured to detect a  
4 header in a frame used to communicate the information;

5 a message processor, coupled to the header detector and a transmitter,  
6 configured to route the frame over the network link and the local link.

1 3. (original) The wireless mobile communication network of claim 2 wherein the  
2 header detector is connected to an output of the decoder and the locally linked  
3 mobile network operates asynchronously.

1 4. (original) The wireless mobile communication network of claim 2 wherein each  
2 mobile node further comprises a GPS receiver and the locally linked mobile  
3 network operates synchronously.

1 5. (original) The wireless mobile communication network of claim 2 wherein the  
2 major node communicates the frame while in standby mode, and the minor node  
3 receives the frame in active mode.

1 6. (original) The wireless mobile communications network of claim 2 wherein the  
2 mobile nodes are cellular telephones.

1 7. (canceled)

1 8. (previously presented) The wireless mobile communications network of claim 2  
2 wherein each frame includes a header.

1 9. (original) The wireless mobile communications network of claim 8 wherein the  
2 header includes a code word, and control information.

1 10. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a Walsh code word.

1 11. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a forward code word and the control information includes a list of a  
3 plurality of major nodes and a list of a plurality of minor nodes.

1 12. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a destination code word and the control information identifies the  
3 minor node and the major node.

1 13. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a routing code word and the control information identifies the major  
3 node and the control information indicates an amount of available bandwidth.

1 14. (original) The wireless mobile communications network of claim 9 wherein the  
2 code word is a receive code word.

1 15. (original) The wireless mobile communications network of claim 2 wherein the  
2 message processor of the major node replaces a forward code word in a header of  
3 the frame with a receive code word, the forward code word identifying the major  
4 node and the receive code word identifying the minor node.

1 16. (original) The wireless mobile communications network of claim 1 wherein the  
2 base station monitors bandwidth of the locally linked mobile network.

1 17. (previously presented) The wireless mobile communications network of claim  
2 1 wherein a configuration list of the nodes of the locally linked mobile network is  
3 adaptively adjusted by the base station depending on need, traffic type, link  
4 quality, coverage, utilized bandwidth, and mobility.

1 18. (original) The wireless mobile communications network of claim 1 wherein  
2 each mobile node monitors a quality of the network link with the base station.

1 19. (original) The wireless mobile communication network of claim 4 wherein the  
2 GPS receiver estimates position, speed, and bearing of the mobile node.

1 20. (original) The wireless mobile communication network of claim 4 wherein  
2 each mobile node uses channel quality and mobility characteristics to determine  
3 suitability for operating as the major node.

1 21. (original) The wireless mobile communication network of claim 1 wherein the  
2 locally linked mobile network includes a plurality of major nodes configured to  
3 communicate information with each other and the minor node.

1 22. (canceled)

1 23. (currently amended) The wireless mobile communication network of ~~claim 22~~  
2 claim 1, wherein the minor node is associated with a plurality of major nodes.

1 24. (canceled)

1 25. (original) The wireless mobile communications network of claim 1 wherein the  
2 locally linked mobile network operates in multicast mode.

3  
4 26. (original) The wireless mobile communications network of claim 2 wherein  
5 each frame is encrypted using a pseudo random number sequence.

1 27. (original) The wireless mobile communication network of claim 1 wherein the  
2 major node operates in active mode while receiving low bandwidth frames  
3 intended for the major node, and high bandwidth frames intended for the minor  
4 node.

1 28. (original) The wireless mobile communications network of claim 1 including a  
2 plurality of major nodes and the base station selects a particular one of the plurality  
3 of major nodes to communicate with the minor node based on available bandwidth  
4 between the major node and the base station.

1 29. (previously presented) The wireless mobile communications network of claim  
2 1 including a plurality of base stations and a plurality of major nodes and minor  
3 nodes communicating with each other via network links and local links.

1 30. (original) The wireless mobile communications network of claim 29 wherein a  
2 first major node communicates with a first base station and a first minor node, and  
3 a second major node communicates with a second base station and a second minor  
4 node to enable the first and second minor nodes to communicate indirectly with  
5 each other via the first and second major nodes and the first and second base  
6 stations.

1 31. (original) The wireless mobile communications network of claim 29 wherein  
2 minor nodes are dynamically assigned to different major nodes depending on a  
3 quality of service of the network link and the local link.

1 32. (original) The wireless mobile communications network of claim 1 further  
2 including an end of transmission signal to indicate an end of communicating the  
3 information.

1 33. (currently amended) A method for communicating information in a wireless  
2 mobile communications network including a base station and a plurality of mobile  
3 nodes, comprising:

4       communicating information directly between a first mobile node  
5 configured as a major node and the base station via a network link; and

6       communicating the information indirectly between the base station and a  
7 second mobile node configured as a minor node via the network link between the  
8 base station and the major node and a local link between the major node and the

9    minor node, wherein the communicating of the information is dynamically routed  
10   to optimize a quality of service of the wireless mobile communications network  
11   and the locally linked network; and  
12        wherein the base station includes a memory to store a configuration list to  
13   associate the major node with the minor node.

1    34. (original) The method of claim 33 further comprising:  
2        detecting a header of a frame received in the major node; and  
3        routing the frame to the minor node via a message processor of the major  
4    node.

1    35-43 (canceled)